

Abstract

A tunable bolometer device for detecting infrared light (IR) from a target at specific frequencies and in a broadband mode. The device may have an array of pixels of which each is 5 controllable to be sensitive to a particular wavelength of light that is selected and detected. The detection of particular frequencies on a pixel level may result in spectral analysis of the target. Further, each pixel of the bolometer via an associated etalon may be tuned to detect a different frequency 10 of IR or be switched to broadband detection of IR. The device may be packaged in an integrated vacuum package where the etalon array becomes the topcap which is bonded to the wafer containing the bolometer array.